

## REMARKS

The independent claims 1, 9, 18 and 26, along with dependent claims 2-7, 10-15, 17, 19-23, 25, 27-29 and 31, were rejected under 35 USC 102(b) as being anticipated by Coates. Dependent claims 8, 16, 24 and 30 were rejected under 35 USC 103(a) as being obvious based on Coates in view of Tuntunji. Favorable reconsideration of this application is requested in view of the following remarks.

### 102 Rejection

Coates does not teach or suggest “calculating the molecular property for each constituent in the mixture....” Applicants discuss at page 6, paragraph 21, the basic difference between prior art NMR measurement techniques, such as Coates, and Applicants novel method. Specifically, Coates is similar to standard NMR uses, where NMR data is used to determine macroscopic properties of an earth formation, such as porosity and the presence or absence of hydrocarbons. However, Coates does not provide a detailed molecular analysis of properties of individual constituents, such as molecular size distributions, within a particular fluid. Instead, Coates proposes a method for obtaining measurements of relaxation time and diffusion properties of oil and water contained in the formation pores. (Coates, col. 14:11-17) This is distinguished from the claimed “molecular properties” such as molecular size and weight distributions and carbon number distributions determined from T1 and T2, or diffusion measurements. (Applicants’ specification, page 12, paragraph 0036.) For at least this reason,

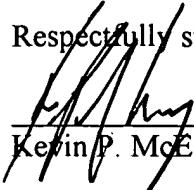
## CONCLUSION

Applicants believe this paper is fully responsive to each and every ground of rejection and objection cited by the Examiner in the Office Action dated June 10, 2003, and respectfully request reconsideration of the application.

Please charge any applicable fees, or apply any excess, to deposit account number 19-

0610.

Respectfully submitted,

  
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Oct 8, 2003

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Date

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